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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,171	09/10/2004	Malcolm Pressley	038665.55361US	8960
23911	7590	03/02/2006	EXAMINER	
CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			KNOX, STEWART	
			ART UNIT	PAPER NUMBER
			3641	

DATE MAILED: 03/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/507,171

Applicant(s)

PRESSLEY, MALCOLM

Examiner

Stewart T. Knox

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20040910.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "4" has been used to designate both the "static mixing blade means" and "mixing bowl assembly." Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to because mixing blade means "4" are not shown. Also, "non-contact level sensor" (46) is labeled in the drawing as "Fibre Optic Controller." Further, page 3 line 27 of the specification states that the fill-to-level control apparatus is not shown, yet it appears to be the "Fill to Level Controller" (42) that appears in figure 1. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If

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a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Where the written description only implicitly or inherently sets forth the structure, materials, or acts corresponding to a means-plus-function, applicant must clarify the disclosure to explicitly state, with reference to the terms and phrases of the claim element, what structure, materials, or acts perform the function recited in the claim elements and equivalents thereof. (See MPEP 2181). Correction of the following is required: applicant must clarify the disclosure to explicitly state, with reference to the terms and phrases of the claim element, what structure, materials, or acts perform "a static mixer means" (claim 1 line 5), "pipe means" (claim 1 line 6), "means for effecting the filling of ordnance" (claim 3 line 3), "means for filling" (claim 4 lines 2-3), "an automated

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ordinance fill level control means" (claim 4 line 6) recited in the claim elements and equivalents thereof. Further examples exist in the specification and, should they be incorporated into the claims, must be accompanied by an appropriate clarification as well.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 4-7, the word "means" is preceded by the word(s) static mixer and pipe in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

6. Claim 4 recites the limitations "the means for filling," "said ordinance components," and "said combined final explosive material" in lines 2-4, without a previous positive recitation thereof. There is insufficient antecedent basis for these limitations in the claim.

7. Claim 5 recites the limitation "said fill-to-level control means" in lines 2-3, without a previous positive recitation thereof. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 7 recites the limitation "said static mixer" in line 2, without a previous positive recitation thereof. Previously, "a static mixer means" has been recited, but it is unclear if this is intended to refer to the same item. There is insufficient antecedent basis for this limitation in the claim.

9. Claims 6 and 7 provide for the use of "an apparatus for the mixing of explosive materials," but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

10. Claims 6 and 7 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-2, 4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donaghue (4,369,689) in view of Hiorth (4,191,480). Donaghue discloses an apparatus for the mixing of explosive materials, comprising a reservoir of pre-mixed explosive material (element 1), a reservoir of hardener material (element 7, col. 4 lines 40-45 –isocyanate, a component of IPDI), a mixing means (deflector plate 5), and a method of using the apparatus. Donaghue does not disclose the two reservoirs having separate pipe means to connect to a static mixer means, wherein the materials are combined at the inlet of the mixer, and does not disclose the mixer as being of the static mixer type. Hiorth discloses a static mixer means for the mixing of explosive materials from two reservoirs (A, B) that mix substantially at the inlet of the static mixer means in order to solve the problem where the intermixing of the materials results in a change of consistency that hampers the further treating process (col. 2 lines 6-12) and provide a continuous mixing process that does not require any moving parts other than the materials themselves (col. 1 lines 13-16), thus reducing the problems associated with a finite pot life of the mixture (i.e. mechanical breakdowns, length of time that the mixture is combined before being dispensed). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the explosives mixer of Donaghue with the static mixer and pipe connections of Hiorth, since such a modification would provide the explosives mixer with a means of mixing explosives where the change in consistency (i.e. hardening or curing) or a breakdown in the machinery will be less likely to cause problems.

13. With respect to claim 4, Donaghue discloses that the mix of materials is controlled by an automated ordnance fill level control means, whereby the flow rates of the two streams are adjusted by controlling the speed of the motor (3) and the pump (8) to give the desired proportions of ingredients and, by implication, the desired volume (col. 4 lines 48-52).

14. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donaghue as applied to the claims above, and further in view of AECI Limited (UK Patent Application GB 2 205 386 A). Donaghue discloses the claimed invention except means for effecting the filling of ordnance. AECI discloses an explosives mixer that utilizes a static mixer and channels the output into cartridge shells or other ordnance (pg. 1 lines 1-5). Alternately, the cylindrical tube of Donaghue is capable of being used to fill ordnance if it is placed over an empty shell. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the explosives mixer of Donaghue to be able to fill ordnance as well as bore holes, since such a modification would let the explosive composition be used in situations other than just the filling of bore holes.

15. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Donaghue as applied to the claims above, and further in view of Pyle (4,503,994). Donaghue discloses the claimed invention including a fill-to-level control means by way of motor (3) and pump (8), but does not disclose a fiber-optically controlled fill-to-level control means. Pyle discloses a fiber-optic liquid level sensing device that will shut off the flow of fluid when it reaches a certain height. Conventional means for performing

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this task may have been as simple as a technician observing the level of explosive in the bore hole or ordnance and adjusting the motor/pump accordingly. To one of ordinary skill in the art, though, this is inefficient and it would be optimal to replace this with a more precise, non-human measuring tool to fill the container to a predetermined level (col. 1 lines 15-16), and a fiber-optic shutoff system is disclosed. It would have been obvious to one of ordinary skill in the art to modify the explosives mixer of Donaghue to use a fiber-optic sensing device (as disclosed by Pyle) to determine when the bore hole or ordnance has been filled to the top, since such a modification would allow for the device to run more automatically and not require the constant input and monitoring of a human user.

Conclusion


16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stewart T. Knox whose telephone number is (571) 272-8235. The examiner can normally be reached on Monday through Thursday, 8:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on (571) 272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

STK


Michael Carone
SPE 3641